

FOR IMMEDIATE RELEASE

### **ESORFRANKI GEOTECHNICAL BEGINS CONTINUOUS JACKING PROJECT**

Esorfranki Geotechnical has begun a three month long continuous jacking operation in KwaZulu-Natal as part of an intricate new storm water drainage system being implemented to address land slippages caused by excess rainwater on Durban's Bluff. The project requires the Esorfranki team to jack an inclined tunnel 130 metres long into loose sand.

The Department of Public Works gave the go-ahead in 2011 for a permanent storm water drainage system to replace a temporary system installed at the local military base 12 years ago. Excess storm water from the 8.01 ha site will be channelled via a 2 km network of underground piping into a 60 metre vertical shaft connected via the 130 metre long inclined tunnel to a sea outfall. The new system includes a series of 1.8 metre diameter caisson soakaways, up to seven metres deep, to dissipate storm water that cannot be channelled to the new shaft outlet.

The overall design of the storm water system has been undertaken by Sookan and Associates, with detailed design of the vertical shaft and the angled jacked tunnel executed by Esorfranki Geotechnical. Moore Spence Jones was appointed as the responsible geotechnical engineers.

"The contract for the new storm water drainage system was awarded to us in November last year and includes the rehabilitation of a 1 000 m<sup>2</sup>, 30 metre deep slip caused by water from a burst storm water pipe on the western side of The Bluff," Byron Field, Esorfranki Geotechnical contracts manager, explains. "Water from the burst pipe caused a cascade of about 2 000 m<sup>3</sup> of loose material to moved down the harbour-facing slope and cover railway lines serving the nearby bulk coal terminal.

"The tunnelling portion of the project presents an interesting challenge, owing to the loose running sand through which the tunnel is being jacked, as well as the length of the jack. This has meant that the jacking operation must run continuously from start-up in August, right through to December, when the tunnel will intersect with the vertical shaft.

As part of the project scope, Esorfranki Geotechnical will demolish the existing sea outfall on the beach and construct a new outfall structure which will be piled and socketed into rock. The

installation of 2 km of storm water reticulation, with some pipes going as deep as four metres, has been sub-contracted to sister company, Esorfranki Pipelines.

The reticulation element of the contract started in February 2012 and is on schedule for completion at project handover in June next year.

As a separate element of the same contract, Esorfranki Geotechnical is rehabilitating a slippage on the western slope that occurred in 2009. This involves the installation of a series of geosteps comprising soil encased in geotextile and is being carried out at the lower levels.

Field says safety is a top priority on the project and to this end Esorfranki Geotechnical has implemented a new, internationally recognised safety system in terms of the OSHA 18001 regulation. And, in terms of environmental impact, the project is proving a challenging work site that requires the Esorfranki team to limit its impact on the natural vegetation as far as possible. After project completion, all working areas will be fully rehabilitated.

Esorfranki Geotechnical, a division of Esorfranki Construction Limited, incorporates the former Esor Africa and Franki Africa and is the largest specialist civil and geotechnical contractor in South Africa and the most established in the Sub-Saharan Africa region.

THE BLUFF PROJECT PIC 01 : A permanent solution to manage the flow of excess storm water off hardened surfaces at the military base on The Bluff started with the sinking of a 60 metre vertical shaft.

THE BLUFF PROJECT PIC 02 : The 60 metre vertical shaft had to be dynamically driven through a series of hardened lenses of calcified sandstone.

THE BLUFF PROJECT PIC 03 : Work underway on the rehabilitation of the western-facing slope overlooking Durban harbour.

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